



Edwin L. Drake and the Birth of the Modern Petroleum Industry

IN 1859, THE WORLD WAS CHANGED forever by an event that took place near Titusville in northwestern Pennsylvania. On August 27, Edwin L. Drake struck oil in the first commercially successful well drilled specifically for oil, and launched the modern petroleum industry in the United States.

Drake did not discover oil, nor was he the first to find it in North America. Native Americans had gathered oil from wood-cribbed seeps and springs along Oil Creek since the 1400s. By the eighteenth century, oil traded by Seneca Indians, called "Seneca Oil," was used medicinally by settlers throughout the region.

Petroleum was an unwelcome byproduct of salt wells drilled in Ohio, New York, West Virginia, Kentucky, and Pennsylvania. Sometimes oil contamina-

tion was so great that the salt wells were abandoned, but enterprising owners of one Kentucky salt well bottled the oil and sold it as medicine in 1829.

Before 1840, the largest sources of Pennsylvania petroleum were found along Oil Creek. European settlers skimmed oil from the surface of the water with wooden paddles or blankets and used it to soothe aching joints and itching skin. Some burned crude oil in their lamps in spite of its black smoke and strong odor, or used flour-thickened oil to grease wagon wheels and sawmill machinery.

By the late 1840s, the cost of whale oil used for lamp fuel climbed as sperm whales were hunted to near extinction. Demand grew for new, inexpensive, and safe illuminants and lubricants for the machinery of the Industrial Revolution.

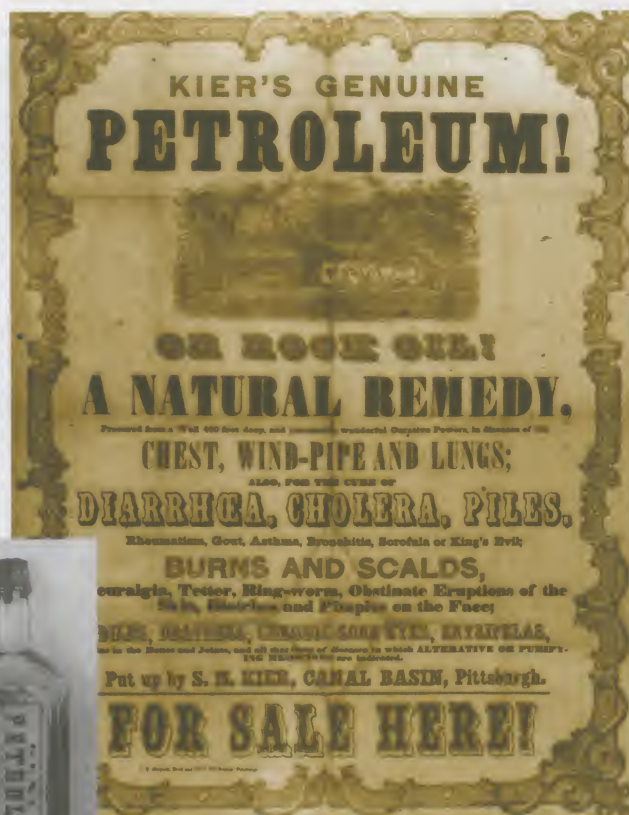
Abraham Gesner, a Canadian, developed a method for extracting oil from coal and called his new product "keroselain." By 1859, more than fifty companies in the United States were manufacturing kerosene from coal. One large plant in Pennsylvania produced six thousand gallons a day!

Samuel M. Kier, who had bottled and sold crude oil from his father's salt wells as medicine around 1845, began to distill petroleum into lamp fuel. "Carbon oil," as he called it, was so successful that he built a refinery with a five-gallon still in Pittsburgh.

By 1858, large quantities of carbon oil were sold in New York City, quickly replacing other dangerous and more expensive lamp fuels. Petroleum from north-western Pennsylvania became the chosen lubricant for the textile industry. Demand for oil drove the price from seventy-five cents to two dollars a gallon and set the stage for the drilling of Drake's well.

Dr. Francis B. Brewer had returned to Titusville from Dartmouth College in 1851 to join his father's lumber firm, Brewer, Watson, and Company. Curious about the possible uses of oil, Brewer carried a bottle of petroleum from an oil spring near the upper sawmill back to Dartmouth in 1853. There it was examined by members of the college's chemistry department and pronounced very valuable.

George H. Bissell, a Dartmouth graduate and practicing attorney in New York City, saw the oil and thought it could be commercially profitable. In November 1854, Bissell and his partner Jonathan G. Eveleth purchased the land where the oil spring was located for \$5,000. On December 30, 1854, they organized the Pennsylvania Rock Oil Company of New York. But people, unfamiliar with the value of oil, were slow to buy stock in the new venture until a report written by Professor Benjamin Silliman Jr. of Yale College showed the economic potential of petroleum. The report, commissioned by Bissell and



Kier's petroleum was advertised as a medicinal cure-all for just about everything! (Drake Well Museum and Park-DWMP)

Eveleth, led some New Haven speculators to buy stock in the company on the condition that it would be reorganized under Connecticut's more liberal laws.

The Pennsylvania Rock Oil Company of Connecticut was formed on September 18, 1855, with a capital stock of \$300,000, but friction between stockholders led to another reorganization and the Seneca Oil Company was formed in March 1858. Edwin L. Drake was hired as the company's general agent at an annual salary of \$1000 and sent to Titusville to begin oil production.

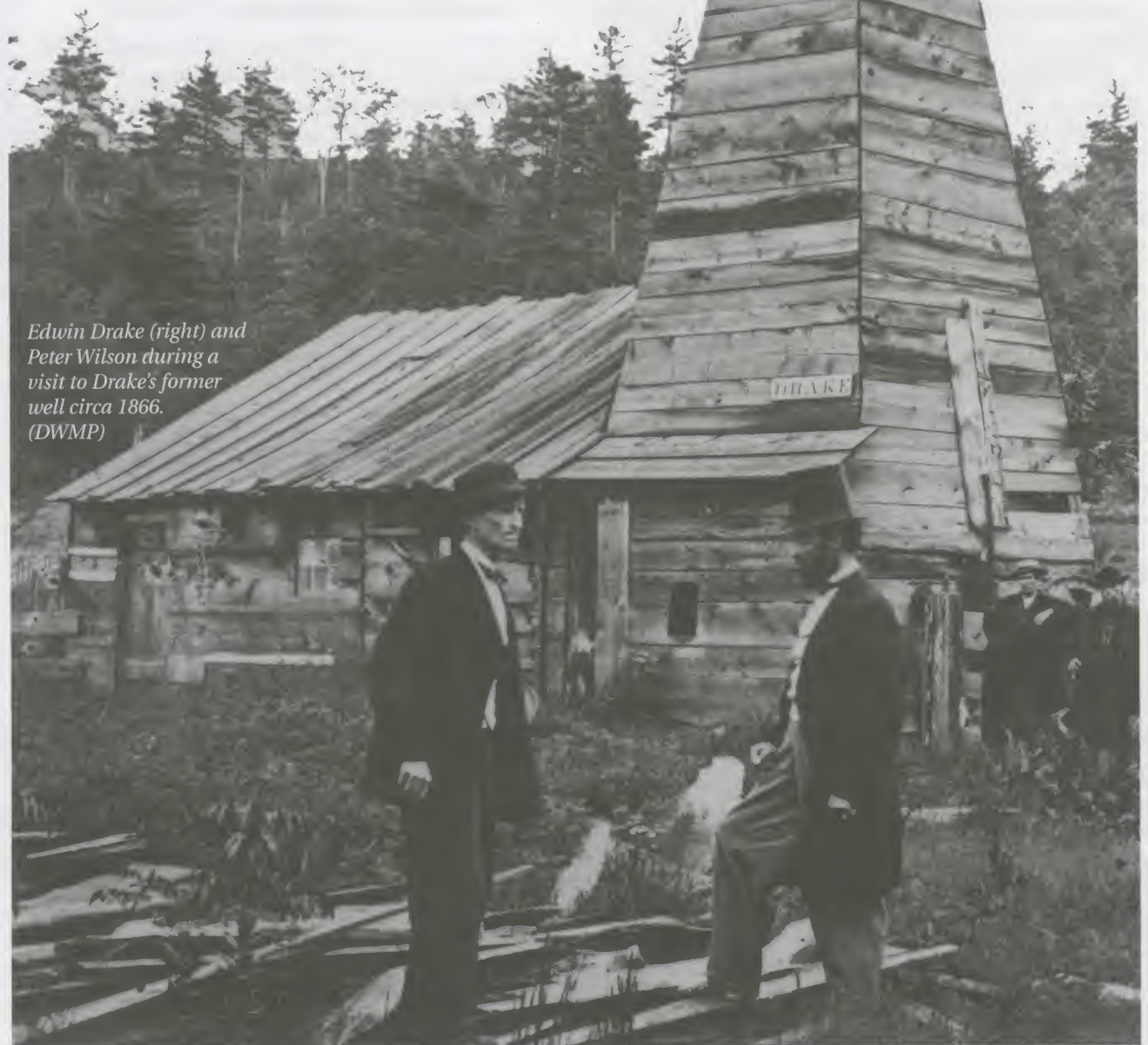
Edwin Drake was born March 29, 1819, in Greenville, N.Y., and had no special qualifications for the task he was given. He spent his early years farming in Vermont, where he received a common school education before he left home at age nineteen to travel west.

Edwin Drake worked a variety of jobs as a ship clerk, a hotel clerk, a dry goods salesman, and a rail-

way express agent before becoming a conductor on the New Haven Railroad in 1849. Drake's first wife, Philena Adams, died in childbirth in 1854, leaving behind their four-year-old son George. In 1857, Drake married Laura Dowd, a woman from a seafaring Connecticut family who was sixteen years his junior.

During the summer of 1857, Drake had become ill and left his position as a railroad conductor, but kept his traveling privileges. While living in New Haven, Drake became acquainted with the owners of the Seneca Oil Company and purchased some stock.

Edwin Drake was thirty-nine years old when he arrived in Titusville in 1858, with Laura, their year-old son Alfred, and eight-year-old George. The family lived in the American Hotel



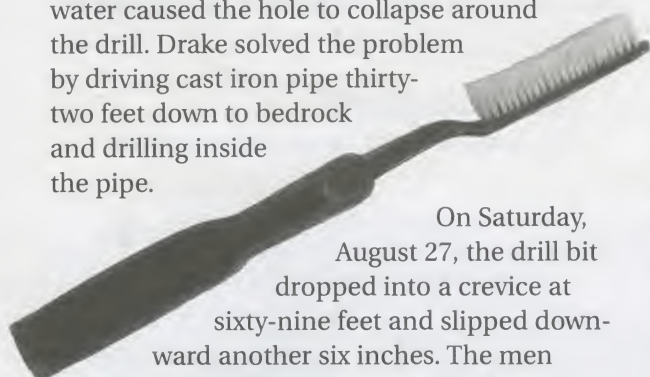
*Edwin Drake (right) and
Peter Wilson during a
visit to Drake's former
well circa 1866.
(DWMP)*

until their house was built in 1860. Another son, Charles, was born in Titusville two years later.

Drake began his search for oil by digging a well at an oil spring site, but ground water drove the workmen out and he decided to drill instead. Drake went to Tarentum, near Pittsburgh, to observe salt well drilling and to hire an experienced driller for his project. He also ordered a steam engine and boiler and built an engine house and derrick before winter forced him to suspend activity.

William A. Smith, an experienced salt well driller and blacksmith from Tarentum, arrived in Titusville to work for Drake in the spring of 1859. "Uncle Billy," as he was known, was paid \$2.50 a day and made the drilling tools for Drake's well.

When drilling began in August 1859, ground water caused the hole to collapse around the drill. Drake solved the problem by driving cast iron pipe thirty-two feet down to bedrock and drilling inside the pipe.



On Saturday, August 27, the drill bit dropped into a crevice at sixty-nine feet and slipped downward another six inches. The men pulled the tools out of the well and went home for the day.

When Smith visited the well the next day, he saw dark fluid floating on the water in the pipe. Greatly excited, he sent his son Sam running to the nearby sawmill shouting, "They've struck oil!"

Drake seemed pleased with his success, but not very excited. Perhaps the full significance of his achievement became clearer as word spread. In the confusion, no one gauged the well's production, but evidence indicates that it produced oil at the rate of eight to ten barrels daily during the year and a half it was pumped. Still, there was enough oil to send others scurrying down the Oil Creek Valley in search of more!

Many other wells were drilled along the creek and the large quantities of Pennsylvania crude oil they produced were refined to provide

the inexpensive lamp fuel and the superior lubrication essential to our modern industrial civilization.

Edwin L. Drake founded the modern petroleum industry by demonstrating that a dependable supply of petroleum could be harvested by drilling. His persistence and his adaptation of salt well drilling technology opened the Pennsylvania oil fields.

Drake is credited with the invention of the drive pipe still in use today. Had he patented his invention, he might have lived a life of comfort and wealth. Instead, he supported his family as a justice of the peace and an oil buyer for New York merchants.

In 1862, he wrote, "Now find myself out of business and out of money!" After the Drake family left Titusville in 1863, Edwin lost his remaining money in stock speculation. His health began to fail, confining him to an invalid's chair. Laura Drake sewed and took in



Edwin L. Drake photograph taken by John A. Mather in 1861. (Above left) Drake's toothbrush, made from horn and hog bristles, folded compactly for traveling. (DWMP)

boarders to support the family, which had grown to include their only daughter, Mary Laura, who was born in 1865.

Word of Drake's plight reached the citizens of Titusville, and, in 1873, they petitioned the General Assembly of Pennsylvania to award the family an annual pension of \$1500. The pension was granted in recognition of the important contribution "Colonel" Drake had made to the economic development of the Commonwealth. Drake died in 1880 and was buried in Bethlehem, Pennsylvania. His wife Laura continued to receive the pension until she died in 1916.

Edwin Drake's achievement has been marked in many ways over the years since his well struck oil in 1859. In 1901, a grand monument to him was erected at Woodlawn Cemetery in Titusville. Drake's body was moved from

The unveiling of the monument to Edwin Drake in Woodlawn Cemetery took place in 1901 (DW149) Drake's body was later moved from Bethlehem, Pennsylvania, to Titusville and interred in front of the monument. (DWMP)

Bethlehem and buried beside the monument. In 1914, the Canadahota Chapter of the Daughters of the American Revolution erected a boulder bearing a bronze tablet to mark the site of the famous well. And in 1934, Titusville oil producers and members of the American Petroleum Institute created the Drake Well Museum and Memorial Park.

Today, Drake Well Museum, which is administered by the Pennsylvania Historical and Museum Commission, welcomes visitors from all over the world to the industrial buildings, historic oil machinery, educational exhibits, and 219 acres of grounds surrounding the original well. An operating replica of Drake's engine house, derrick, and steam engine show how crude oil was pumped out of the ground and tell the story of the birth of the modern petroleum industry, which began in Pennsylvania in 1859.

*Text by Barbara Zolli,
Site Administrator, Drake Well Museum*



